



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.

ATLANTA, GEORGIA 30365

MAY 16 1994

4WD-SSRB

MEMORANDUM

SUBJECT: Alpha Chemical Site
Five-Year Review Final Report

FROM: Douglas F. Mundrick, Chief
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THRU: Richard D. Green, Associate Director Office of Superfund and
Emergency Response

TO: Joseph R. Franzmathes, Director
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Attached please find a copy of the Five-Year Review Final Report for the Alpha Chemical site in Polk County, Florida. Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, requires that if a remedial action is taken that results in any hazardous substances, pollutants, or contaminants remaining at the site, the Environmental Protection Agency (EPA) shall review such remedial action not less than each five years after initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.

The remedial action consisted of capping a small unlined pond with a low permeability cover to promote surface water runoff and prevent vertical infiltration of water. Drainage swales were installed around the perimeter of the cap and two drainage ditches were excavated to accept drainage from the swales. The construction required two weeks and was completed in September 1989. The remedy also provided for quarterly groundwater sampling to confirm that the cap prevented significant leaching and migration of contaminants.

The five-year review activities included inspection of the cap and drainage system and groundwater and surface water sampling. There was no evidence of erosion on the cap or drainage swales; however, erosion of soil was observed around the cap's drainage discharge pipe. Corrective actions were immediately implemented to halt soil erosion at the cap's drainage discharge pipe to ensure proper surface water drainage away from the cap.

Document Control No. 4400-44-ADOW

Revision 2

FIVE-YEAR REVIEW REPORT

**ALPHA CHEMICAL SITE
KATHLEEN, FLORIDA**

Work Assignment No. 44-4X46

FEBRUARY 1994

REGION IV

U.S. EPA CONTRACT NO. 68-W9-0057

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WESTON W.O. No. 04400-044-093-0004-00

FIVE-YEAR REVIEW REPORT

REVISION 2


ALPHA CHEMICAL SITE KATHLEEN, FLORIDA

U.S. EPA Contract No. 68-W9-0057

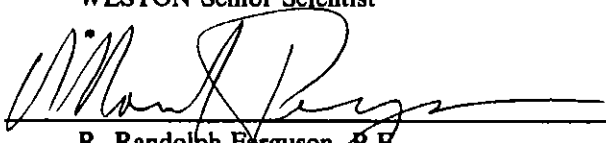
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FEBRUARY 1994

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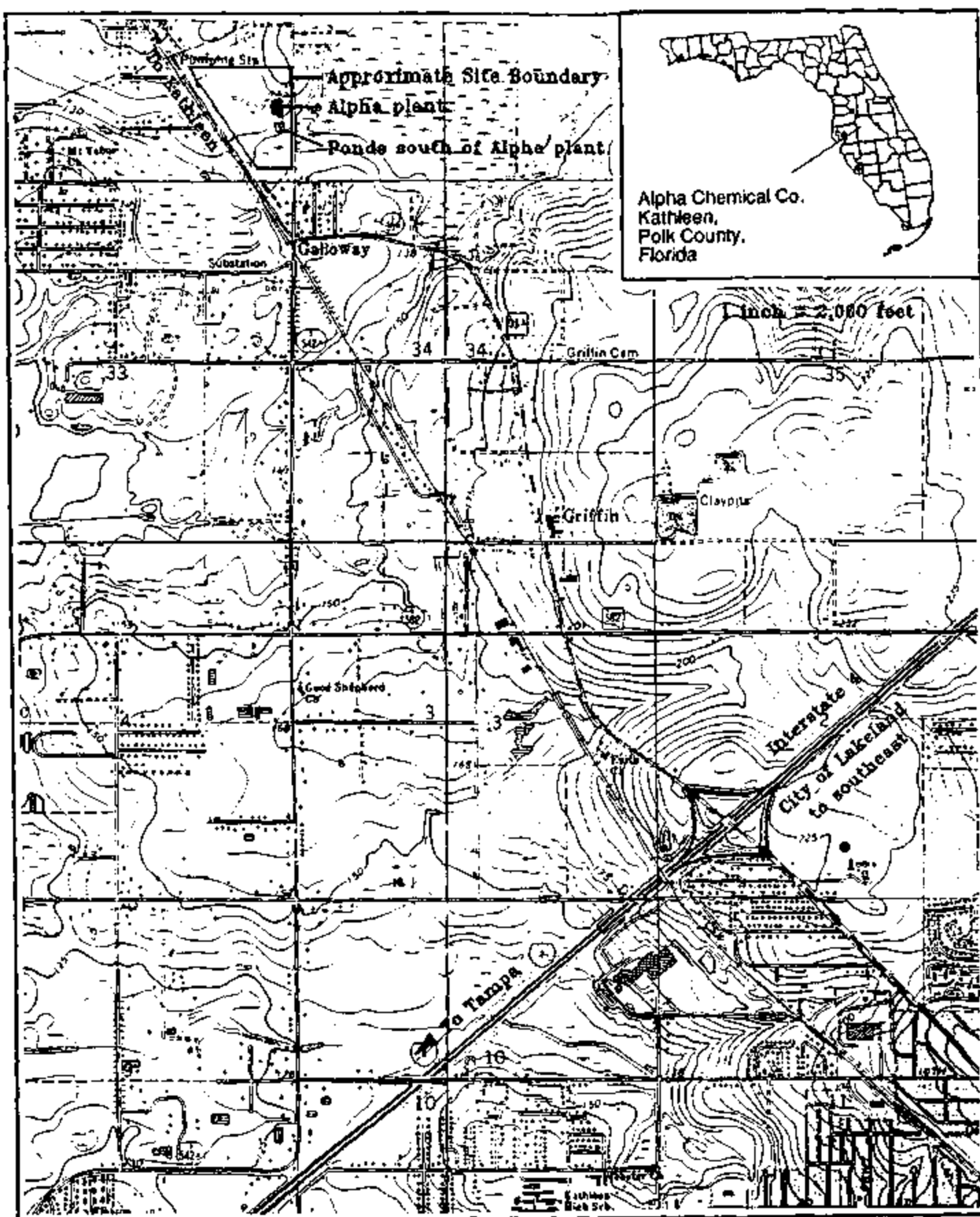
SECTION 1

BACKGROUND

The Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) as amended by Section 121(c) and Section 300.430(f)(4)(ii) of the National Oil and Hazardous Substances Pollution Contingency Plan requires a statutory five-year review to evaluate the effectiveness of remedial actions taken at this site. The objective of this statutory review, as defined in the EPA Office of Solid Waste and Emergency Response Directive 9355.7-02, is to evaluate whether the response action remains protective of public health, welfare and the environment. This five-year review, conducted in July 1993, evaluates the effectiveness of the remedial action taken at the Alpha Chemical Superfund Site in Kathleen, Florida.

1.1 INTRODUCTION

The Alpha Chemical Superfund Site is located at the site of the Alpha Resins Plant at 4620 North Galloway Road, three miles north of Lakeland, Florida. (See Figure 1-1). Contamination of the site resulted from the use of two State-permitted surface impoundments for percolation of wastewater from resin manufacturing during the period of 1967 to 1976. In 1976, a thermal oxidizer was installed at the plant to treat wastewater and the ponds were no longer used for wastewater percolation. Solid waste was then landfilled in one of the dried ponds during 1977 for approximately one year.



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in 1981, Alpha Resins was one of the original sites proposed for placement on the National Priorities List, as recommended by the Florida Department of Environmental Regulation (FDER). Several investigations at the site were conducted between 1982 and 1984. Soil and groundwater sampling on-site indicated ethylbenzene as a prevalent contaminant at the site, along with xylenes and styrene. In 1985, two consent orders were signed between the FDER and Alpha Resins Corporation requiring Alpha to pay a penalty for permit and groundwater violations and to perform a remedial investigation/feasibility study. During 1986, an Endangerment Assessment was performed. In 1987, sampling and analysis of all groundwater monitoring wells and sand point wells was conducted again, and in 1988, the EPA selected a remedial alternative. The rationale for its selection was outlined in the May 1988 Record of Decision (ROD). A consent decree between EPA and Alpha was entered into court in May 1989 requiring Alpha to perform the remedial design/remedial action under EPA oversight.

The remedial design consisted of capping the unlined pond with a synthetic low permeability cap to promote surface water runoff and prevent vertical infiltration of water. The remedial action involved filling the pond with clean clay soil, compacting the fill, and placing a synthetic liner over the compacted fill material. Layers of drainage material, filter fabric, and topsoil were placed over the synthetic liner. Drainage swales were installed around the perimeter of the cap and two drainage ditches were excavated to accept drainage from the swales. These ditches drained south into an adjacent swamp. The cap surface and drainage ditches were immediately vegetated with sod to prevent topsoil erosion. Construction of the cap required two weeks and was completed on September 15, 1989. Oversight of the construction was performed by an EPA Contractor. In October 1989, final on-site inspection and certification was conducted by a professional engineer, registered in the State of Florida. This inspection certified that the remedy was operational and functional.

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1.2 REMEDIAL OBJECTIVES

Remedial objectives, or environmental criteria for clean up, were established as part of the Record of Decision (ROD) in May, 1988. The criteria were based on applicable or relevant and appropriate requirements (ARARs) related to possible health effects. In accordance with the proposed National Primary Drinking Water Regulation (1985), recommended maximum contaminant levels were set at 140 µg/L for styrene, 440 µg/L for xylene, and 680 µg/L for ethylbenzene. Table 1-1 identifies the remedial objectives to be achieved.

Activities to monitor the effectiveness of the remedial action commenced immediately after the capping action was completed in September, 1989. Both a Surface and Groundwater Monitoring Plan as well as an Operations and Maintenance (O&M) Plan were prepared to guide monitoring activities. The Plans were designed to: 1) detect any significant changes in groundwater concentrations of ethylbenzene, styrene, and xylene; 2) determine if the cap would allow a significant amount of lateral migration of these contaminants in the surficial aquifer; 3) determine if there were any evidence of migration to the deep Floridan Aquifer; 4) determine if there was any evidence that the cap was not achieving the desired potentials of vertical contaminant migration control; and 5) detect any possible degradation of the cap that had been placed on the landfilled pond.

Monitoring activities have included inspection of the cap on a biweekly basis, and sampling of surface water and groundwater (both the surficial and Floridan Aquifers). All wells were sampled quarterly from September 1989 until December 1990. Thereafter, only two wells (AC-106 and AC-107) were sampled quarterly, since no ethylbenzene, styrene, or xylene had been

Table 1-1
Remedial Objectives

Chemical	Maximum Sampled Observed Concentration	Maximum Sample Observed Concentration Groundwater ONLY	Estimated Maximum In-Stream Concentration	Recommended Maximum Contaminant Levels (RMCL) ^a	Allowable Daily Intakes (ADIs) ^b	Inhalation Recommended Time-Weighted Averages (TWA, OSHA) ^c	Ambient Criteria for Protection of Fresh Water Life
Benzoic Acid	17 mg/kg	26.0 mg/l	0.02 mg/l	NR	NR	NR	23 mg/l ^d
1,2-Dichloro-propane	0.224 mg/kg	ND	5 x 10 ⁻⁵ mg/l	0.006 mg/l	Not Set	75 ppm	1.4 mg/l ^e
Ethylbenzene	461 mg/kg	8.2 mg/l	0.15 mg/l	0.680 mg/l	3.40 mg/D	100 ppm	1.4 mg/l ^e
Styrene	1,480 mg/kg	0.470 mg/l	0.0004 mg/l	0.140 mg/l	NR	100 ppm	0.9 mg/l ^g
Xylene	14.5 mg/kg	0.046 mg/l	0.006 mg/l	0.440 mg/l	2.20 mg/D	100 ppm	6.0 mg/l ^f

^aFederal Register, 1985, "Proposal Rulemaking for National Primary Drinking Water Regulation".

^bUSEPA, 1984, "Summary of Currently Acceptable Daily Intakes (ADIs) for Oral Exposure".

^cOSHA, 1981, "General Industry Safety and Health Standards", 29 CFR1910.

^dUSEPA, 1980, "Dichloropropanes/Dichloropropenes: Ambient Water Quality Criteria."

^eUSEPA, 1980, "Ambient Water Quality Criteria for Ethylbenzene".

^fUSEPA, 1984, "Health Effects Assessment for Xylene".

^gSittig, 1985, Handbook of Toxic and Hazardous Chemicals and Carcinogens

NA = Not applicable

NR = None reported in toxicology database.

ND = Not detected

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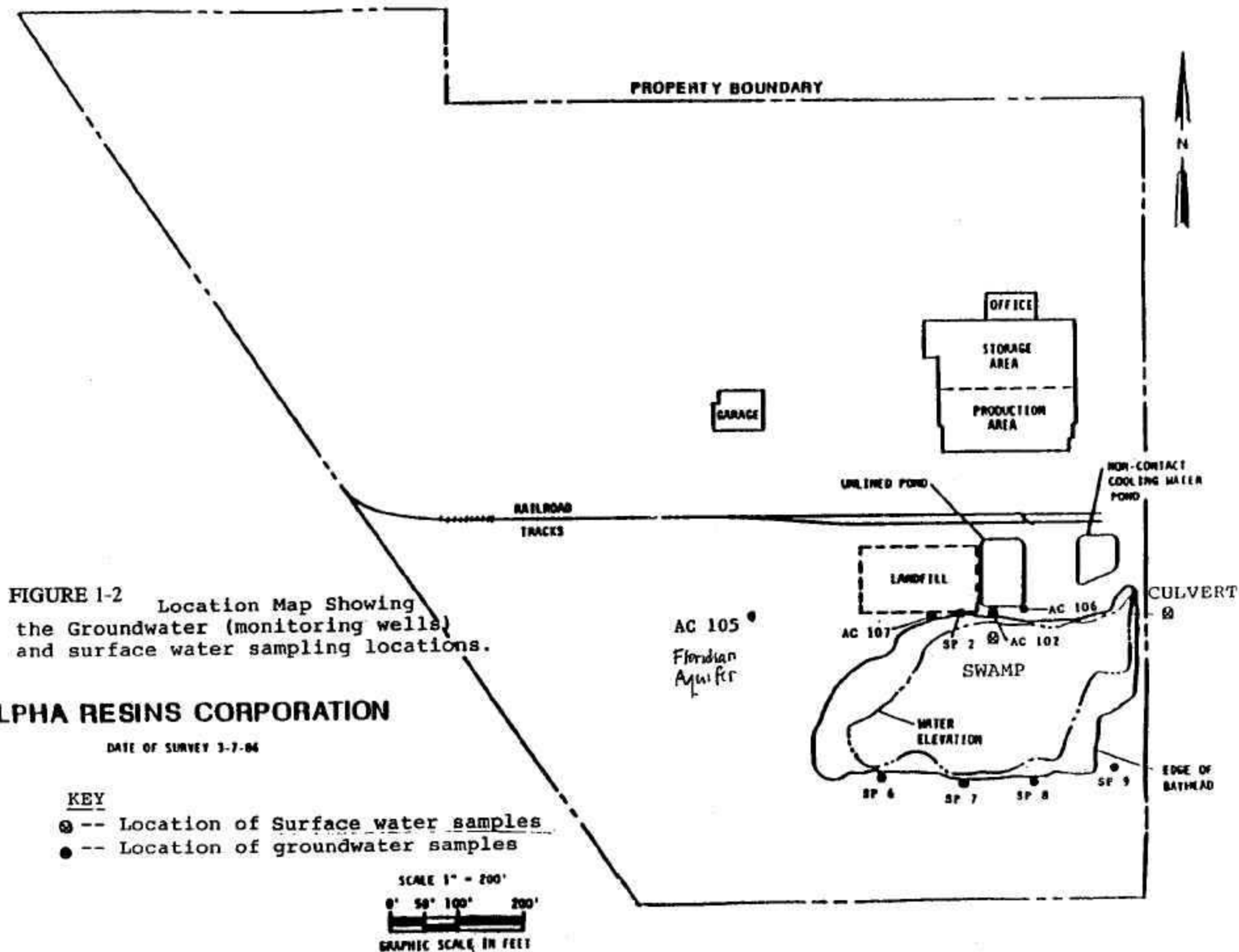
detected in any of the other samples, including the Floridan Aquifer. The system of monitoring wells is shown on Figure 1-2.

Results from sampling activities during the period of November 1984 to July 1993 are shown in Table 1-2 and Figures 1-3, 1-4, and 1-5. EPA issued an Interim Close-Out Report for the site on September 21, 1990 in response to progress made toward reaching remedial objectives. As can be seen from the figures showing contaminant levels over time, all indicator contaminants have been below the applicable maximum contaminant levels (MCL), as identified in the Record of Decision, since December 1991.

1.3 ARARs REVIEW

Applicable or Relevant and Appropriate Requirements (ARARs) were reviewed for the Alpha site to determine if there have been any regulatory changes since the remedial action which would impact the remedial goals. ARARs that were identified and reviewed include:

1. Safe Drinking Water Act, as amended in 1986, maximum contaminant levels for ethylbenzene, styrene, and xylenes;
2. Chapter 17-3, Florida Administrative Code (FAC), Water Quality Standards (contains requirements for groundwater monitoring plans);
3. Clean Water Act, water quality criteria;
4. Resource Conservation and Recovery Act, alternate concentration limits;



XYLENES

	NOV '84	NOV '84	AUG '85	JUN '86	JUN '87	SEPT '88	DEC '88	MAR '89	JUN '90	SEPT '90	DEC '90	MAR '91	JUN '91	SEPT '91	DEC '91	MAR '92	JUN '92	SEPT '92	DEC '92	MAR '93	JUL '93	SEPT '93	DEC '93	
	DUPLICATE																							
1	9	*	*	*	5	1J	2J	109J	5U	1J	2J	*	*	*	*	*	*	*	*	*	10U	*	*	AC 102
5	*	*	*	*	—	5U	*	5U	*	5U	*	*	*	*	*	*	*	*	*	*	10U	*	*	AC 105
6	610	*	*	*	—	160U	65J	64.2J	120U	13 8DJ	55J	5U	3J	22	9J	8DJ	12DJ	2J	5J	7J	14	8J	8J	AC 106
7	424	692	*	*	48	40	29	9.05	4J	8	11	8	8	15	15J	21	2J	28	6J	15	9J	4J	2J	AC 107
8	—	*	*	*	*	5U	5U	5U	5U	5U	2J	*	*	*	*	*	*	*	*	*	10U	*	*	SP-2
9	*	*	*	*	—	1J	5U	5U	5U	5U	3J	*	*	*	*	*	*	*	*	*	10U	*	*	SP-6
10	*	*	*	*	—	5U	5U	5U	5U	5U	8	*	*	*	*	*	*	*	*	*	10U	*	*	SP-7
11	*	*	*	*	—	5U	5U	5U	5U	5U	5	*	*	*	*	*	*	*	*	*	10U	*	*	SP-8
12	*	*	*	*	—	5U	5U	5U	5U	5U	5U	*	*	*	*	*	*	*	*	*	10U	*	*	SP-9
13	*	*	*	*	—	5U	5U	5U	5U	5U	2J	*	*	*	*	*	*	*	*	*	10U	*	*	Culvert
14	*	*	*	*	*	*	5U	*	5U	5U	2J	*	*	*	*	*	*	*	*	*	10U	*	*	Swamp

UNITS - UG/L

—= ANALYZED BUT NOT DETECTED

* = NOT SAMPLED OR ANALYZED AT THIS TIME

D = IDENTIFIED AT A SECONDARY DILUTION FACTOR

J = AN ESTIMATED VALUE

U = COMPOUNDS WAS NOT DETECTED AT DETECTION LIMIT

E = IDENTIFIED CONCENTRATION EXCEEDING THE CALIBRATION RANGE, DILUTED & RE-ANALYZED

Table 1-2

Sampling Results

November 1984 to December 1993

STYRENE

	NOV '84	NOV '84	AUG '85	JUN '86	JUN '87	SEPT '89	DEC '89	MAR '90	JUN '90	SEPT '90	DEC '90	MAR '91	JUN '91	SEPT '91	DEC '91	MAR '92	JUN '92	SEPT '92	DEC '92	MAR '93	JUL '93	SEPT '93	DEC '93	
	DUPLICATE																							
102	--	-	*	*	--	5U	5U	5 U	5U	5U	5U	*	*	*	*	*	*	*	*	*	10U	*	*	AC 102
105	*	*	*	010 U	--	5U	*	5 U	*	5U	*	*	*	*	*	*	*	*	*	*	10 U	*	*	AC 105
106	--	*	*	*	470	160 U	290 U	100 U	800	5U	100 U	5U	5U	5U	25 U	42 U	20 U	10 U	50 U	20 U	10 U	10 U	10 U	AC 106
										33 U														
107	--	--	--	*	--	5U	5U	5 U	5U	5U	5U	5U	5U	6 U	17 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	AC 107
1	--	*	*	*	*	5U	5U	5 U	5U	5U	5U	*	*	*	*	*	*	*	*	*	10 U	*	*	SP-2
2	*	*	--	*	--	5U	5U	5 U	5U	5U	5U	*	*	*	*	*	*	*	*	*	10 U	*	*	SP-6
3	*	*	--	*	--	5U	5U	5 U	5U	5U	2J	*	*	*	*	*	*	*	*	*	10 U	*	*	SP-7
4	*	*	--	*	--	5U	5U	5 U	5U	5U	1J	*	*	*	*	*	*	*	*	*	10 U	*	*	SP-8
5	*	*	--	*	--	5U	5U	5 U	5U	5U	5U	*	*	*	*	*	*	*	*	*	10 U	*	*	SP-8
ert	*	*	*	*	--	5U	5U	5 U	5U	5U	5U	*	*	*	*	*	*	*	*	*	10 U	*	*	Culvert
mp	*	*	*	*	*	*	5U	*	5U	5U	5U	*	*	*	*	*	*	*	*	*	10 U	*	*	Swamp

UNITS - UG/L

-- = ANALYZED BUT NOT DETECTED

* = NOT SAMPLED OR ANALYZED AT THIS TIME

D = IDENTIFIED AT A SECONDARY DILUTION FACTOR

J = AN ESTIMATED VALUE

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Table 1-2 (continued) □

Sampling Results □

November 1984 to December 1993

ETHYLBENZENE

	NOV '84	NOV '84	AUG '85	JUN '86	JUN '87	SEPT '88	DEC '88	MAR '90	JUN '90	SEPT '90	DEC '90	MAR '91	JUN '91	SEPT '91	DEC '91	MAR '92	JUN '92	SEPT '92	DEC '92	MAR '93	JUL '93	SEPT '93	DEC '93	
	DUPLICATE																							
02	98	*	*	*	72	5 U	11	12.9	5 U	5	4 J	*	*	*	*	*	*	*	*	*	1 J	*	*	AC 102
06	*	*	*	.010 U	—	5 U	*	5 U	*	5 U	*	*	*	*	*	*	*	*	*	*	10 U	*	*	AC 105
08	22,600	*	*	*	8,200	4,200	7,800	3,200	3,800	1200 E 1000 D	3900	4 J	65	1300 D	420	480 D	360	77	690	340	27	130	29	AC 106
07	2,640	5,850	28	*	400	13	6	1.4 J	8	2 U	18	2 J	2 J	160	280	97	10 U	24	10 U	12	1 J	3 J	10 U	AC 107
	724	*	*	*	*	5 U	5 U	5 U	5 U	5 U	2 J	*	*	*	*	*	*	*	*	*	10 U	*	*	SP-2
	*	*	—	*	—	5 U	5 U	5 U	5 U	5 U	5 U	*	*	*	*	*	*	*	*	*	10 U	*	*	SP-6
	*	*	104	*	—	5 U	5 U	5 U	5 U	5 U	2 J	*	*	*	*	*	*	*	*	*	10 U	*	*	SP-7
	*	*	—	*	—	5 U	5 U	5 U	5 U	5 U	1 J	*	*	*	*	*	*	*	*	*	10 U	*	*	SP-8
	*	*	—	*	—	5 U	5 U	5 U	5 U	5 U	5 U	*	*	*	*	*	*	*	*	*	10 U	*	*	SP-9
ort	*	*	*	*	—	5 U	5 U	5 U	5 U	5 U	5 U	*	*	*	*	*	*	*	*	*	10 U	*	*	Culvert
sp	*	*	*	*	*	*	5 U	*	5 U	5 U	5 U	*	*	*	*	*	*	*	*	*	10 U	*	*	Swamp

UNITS = UG/L

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Table 1-2 (continued)

Sampling Results

November 1984 to December 1993

FIGURE 1-3
Sampling Results for Ethylbenzene
(September 1989 to July 1993)

Sampling Results for Ethylbenzene

September 1989 – July 1993

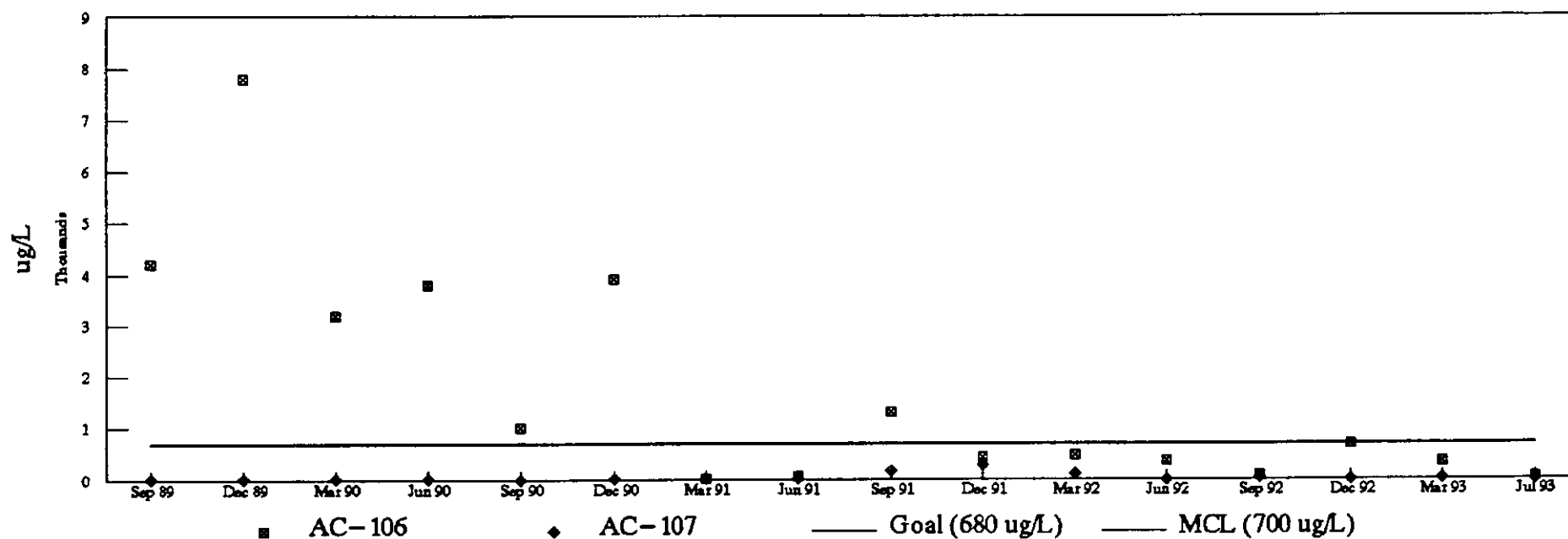


FIGURE 1-4
Sampling Results for Xylenes
(September 1989 to July 1993)

Sampling Results for Xylenes

September 1989 – July 1993

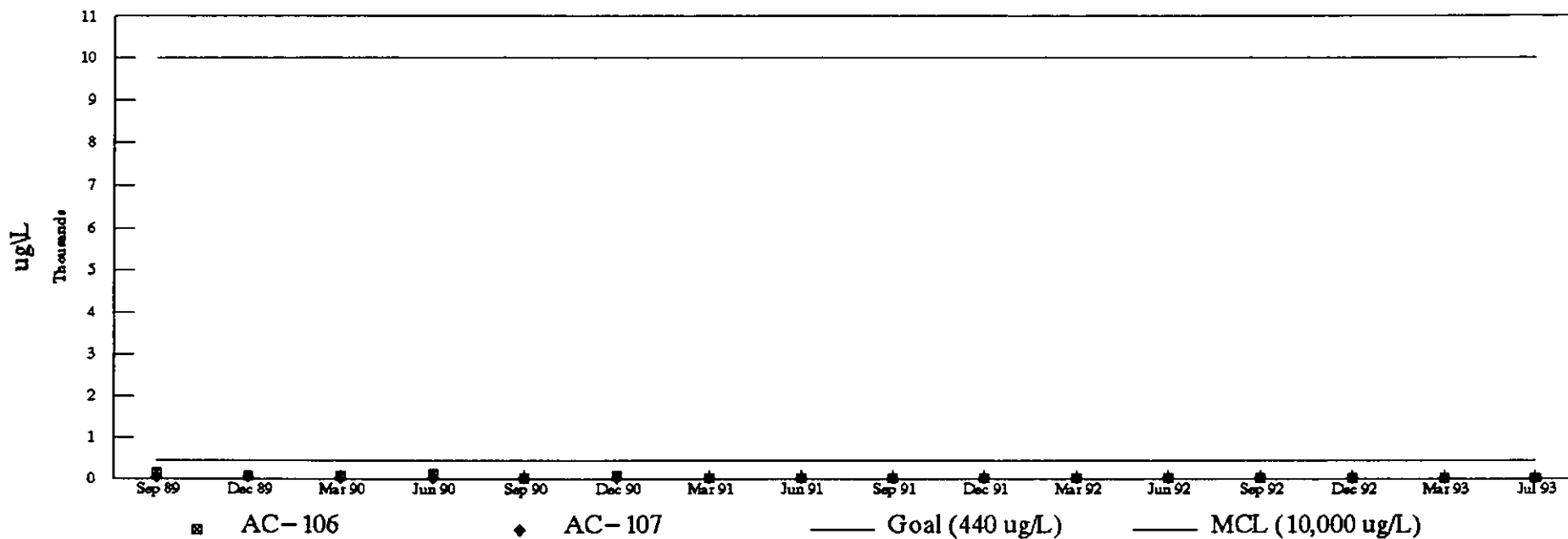
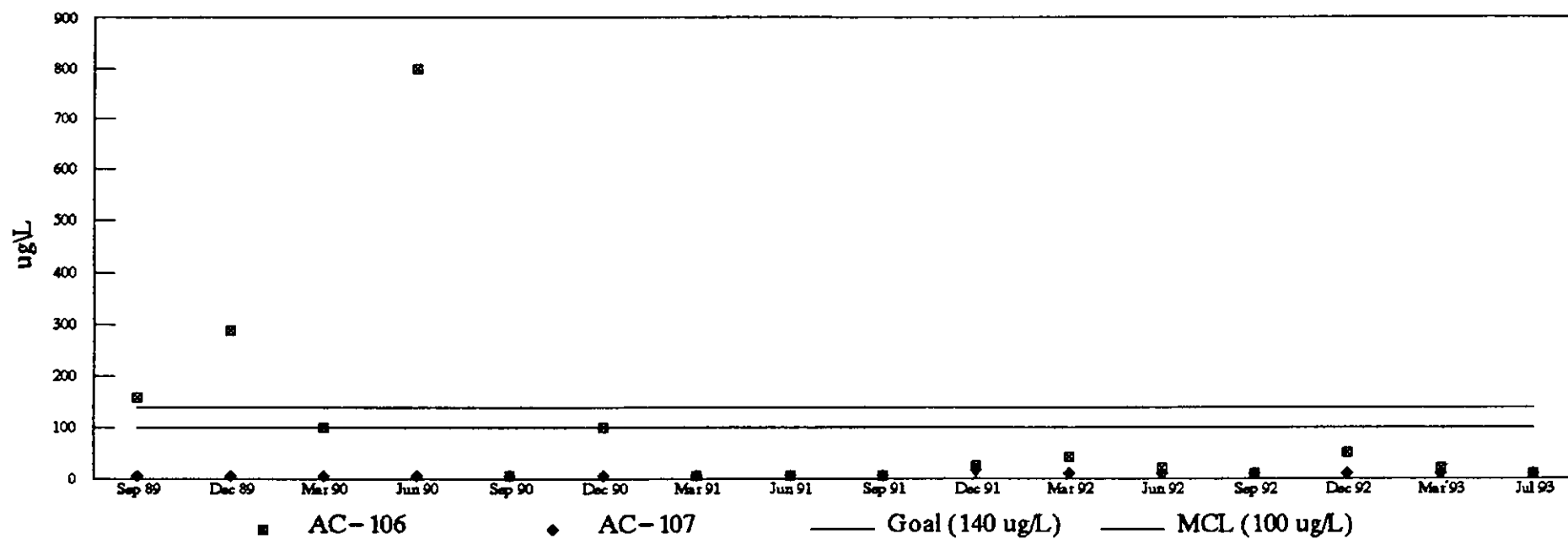


FIGURE 1-5
Sampling Results for Styrene
(September 1989 to July 1993)

Sampling Results for Styrene

September 1989 – July 1993



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5. Chapter 17-4, Florida Administrative Code (FAC), Permits, specifically 17-4.07 and 17-4.245(6)(d);
6. Chapter 17-7, Florida Administrative Code (FAC), Resource Recovery and Management;
7. Chapter 17-25, FAC, regulations for stormwater discharge;
8. Chapter 17-30, FAC, hazardous waste;
9. Chapter 17-40, FAC, water policy; and
10. Chapter 40D-2, FAC, Rules of the Southwest Florida Water Management District (Consumption Use Permit).

Maximum contaminant levels (MCLs) contained in the National Safe Drinking Water Act are the enforceable standard against which water samples are judged for compliance with federal regulations. The Record of Decision (May 1988) cites recommended maximum contaminant levels to be the following:

- 0.680 mg/l for ethylbenzene
- 0.140 mg/l for styrene
- 0.440 mg/l for xylene

Since that time, the MCLs have been modified. Current MCLs for the applicable contaminants are:

- 0.700 mg/l for ethylbenzene

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- 0.100 mg/l for styrene
- 10.000 mg/l for xylenes

While the MCL modifications for ethylbenzene and styrene have been slight (.680 mg/l to .700 mg/l and .140 mg/l to .100 mg/l, respectively), the modified MCL for xylenes is more notable, with the recommended contaminant level changing from .440 mg/l to 10.000 mg/l.

The Florida Statutes which support most of the applicable regulations are 403.087 and 403.707, which deal with permits and landfills respectively. Florida Drinking Water Standards are the same as federal MCLs for the contaminants of concern being monitored at this site.

During this Five-Year Review, on July 1993 sampling event, all detected concentrations for the indicator chemicals (ethylbenzene, styrene, and xylenes) were below their respective maximum contaminant limits at wells AC-106 and AC-107. Neither were there any indicator chemicals detected at other wells or surface water samples on-site. The selected remedy, capping the unlined pond and requiring long-term monitoring of both ground and surface water, has achieved compliance with all of the identified ARARs.

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SECTION 2

SITE CONDITIONS

2.1 SUMMARY OF SITE VISIT

As part of the five-year review, a site visit to Alpha Chemical was made on July 13 and 14, 1993. The visit was attended by Barbara Dick, EPA Remedial Project Manager, Joyce Boakes, WESTON (EPA Contractor Support), and representatives from Alpha Chemical. The purpose of the visit was to confirm that the remedy is operating and functioning as designed. To accomplish this aim, the following tasks were undertaken:

- As part of an expanded quarterly sampling event, Alpha Chemical collected samples from all groundwater monitoring wells, the culvert, and the swamp. EPA and WESTON were on-site to observe sampling techniques. In addition, WESTON collected one groundwater split sample and forwarded it to the EPA Region IV Environmental Services Division (ESD) Lab for analysis, and relinquished EPA blanks and spikes to Alpha personnel.
- EPA and WESTON met with Alpha to discuss the effectiveness of the landfill cap and review operations and maintenance activities. While on the site, EPA and WESTON inspected and documented current site conditions and evaluated the integrity of the cap. (See Appendix A for photo documentation).

These tasks are described below.

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2.1.1 Groundwater Sampling

Alpha Chemical's field effort, observed by EPA and WESTON, was conducted by a four-person team. The effort consisted of sampling nine groundwater monitor wells for VOA analysis. The following well locations (Figure 1-2) were sampled: SP-2; SP-6; SP-7; SP-8; SP-9; AC-102; AC-105; AC-106; and AC-107. All the wells are located in the surficial aquifer, with the exception of AC-105, which is located in the Floridan Aquifer. To confirm that EPA Standard Operating Procedures were followed for all groundwater sampling activities, WESTON completed a Region IV ESD Field Overview Checklist (See Appendix B) to document general field procedures and equipment used during groundwater sampling.

Split sampling was performed by WESTON for one groundwater sample at well location AC-106. A full-scan analysis was performed to measure levels of the following constituents:

- Volatile Organics (VOAs)
- Pesticides, BNAs, PCBs
- Metals
- Cyanide

After obtaining the split sample, WESTON preserved the VOA samples with hydrochloric acid. Metals were preserved to a pH < 2 with nitric acid and cyanide was preserved to a pH >10 with sodium hydroxide. All sample containers were then placed in a cooler with ice and sent to the Region IV ESD Lab.

WESTON also relinquished EPA blanks and spikes to Alpha personnel during groundwater sampling for analysis with their samples. Appendix C contains the Blank/Spike Tracking

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Record, dated July 14, 1993, that was used to document the blank and spike procedure followed. The groundwater blanks and spikes were renamed as follows:

- AC 106-A: Extractable Organics, VOAs, metals, and cyanide water blanks;
- AC 106-B: Extractable Organics, VOAs, metals, and cyanide water spikes; and
- AC 106-C: ICS spike

Laboratory analysis of the split sample yielded the following results for indicator contaminants:

Table 2-1
EPA Split Samples Results for AC-106

Contaminant	Analytical Results (F g/L)
Ethylbenzene	28
Xylenes	13
Styrene	5.0U

U = Material was analyzed for but not detected. The number is the minimum qualification limit.

All laboratory results from both Alpha and EPA samples indicate that the level of contaminant present is below current MCLs for the above-listed contaminants.

To confirm the July 1993 full-scan analysis laboratory results from EPA's split sample, Alpha resampled well AC-106 in September 1993. Results of the EPA Region IV ESD laboratory analysis indicate that levels of aluminum and iron in the sample exceeded Florida's secondary maximum contaminant levels. Alpha's lab results confirm these relatively high levels. The presence of aluminum and iron in the sample is thought to be indicative of background levels.

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This conclusion is based on the fact that no metals are used in Alpha's manufacturing process. In addition, it is not unusual to find high levels of these analytes in the surficial aquifers of Florida. All laboratory results are attached in Appendix D.

2.1.2 Site Conditions

During the site visit, EPA and WESTON made a careful inspection of the landfill cap. The cap is covered with grass that is mowed and watered regularly. There is no evidence of erosion on the cap. Signs reading "Do Not Disturb The Soil" are also clearly posted around the landfill cap area. The current condition of the cap is documented in photographs appearing in Appendix A.

As part of operations and maintenance (O&M), some minor additions were needed to ensure that the cap would operate and function as it was designed. In September 1989, immediately after the construction of the cap, sod was laid on the cap (which was initially seeded) to ensure that no erosion would occur. Then, a sprinkler system was installed after a period of very dry weather in July 1990.

As a result of the Five-Year Review, EPA recommended that Alpha Chemical repair an area which was showing signs of erosion. Corrective actions have been performed to halt soil erosion at the cap's drainage discharge pipe (See Appendix E - Alpha Chemical Correspondence). This erosion was occurring around the pipe near the discharge which exposed the top of the PVC pipe (Photograph No. 14). Corrective actions included extending the pipe discharge (Photograph No. 15), backfilling, and placement of sod over the entire area

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(Photograph No. 16). While this erosion was not currently affecting the capped area, the corrective measures prevented any future erosion toward the cap.

2.2 AREAS OF NON-COMPLIANCE

WESTON did not observe any areas of non-compliance with respect to the Consent Decree. The remedial cap appears to be functioning as intended and Alpha continues to perform O&M as instructed by the Consent Decree. The inspection performed by WESTON did, however, reveal bare soil areas near the perimeter drainage swales (Photographs No. 2 and No. 6). Further investigation by Alpha Chemical representatives determined that these bare soil areas are fire ant mounds (See correspondence from Alpha Chemical in Appendix E and Photograph No. 13 left (north) of the sign regarding the bare soil areas).

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SECTION 3

RECOMMENDATIONS

3.1 TECHNOLOGY RECOMMENDATIONS

It appears that Alpha has continued a conscientious attitude in performing O&M activities at the site. Alpha personnel conduct monitoring and sampling on a regular basis. O&M records also indicate that Alpha personnel regularly inspect the integrity of the cap. Corrective actions such as those performed around the discharge pipe should be performed on an as-needed basis.

3.2 REQUIREMENTS FOR RECOMMENDATION IMPLEMENTATION

Based on the results of the groundwater samples collected as part of this review, no significant levels of indicator contaminants were observed in the aquifer surrounding the capped landfill. In fact, sampling of all wells sampled since December 1991 indicates that concentrations of all three contaminants have significantly decreased and remained below current MCLs. Given this history of analytic results, sampling frequency could be reduced or eliminated altogether. At a maximum, it is recommended that samples be obtained from well location AC-106 and AC-107 on a semi-annual basis, and samples from the other well locations be collected every three years. O&M should continue on a weekly basis, with special attention given to maintenance of the drainage swales.

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3.3 STATEMENT ON PROTECTIVENESS

Based on the site visit and sampling results, the remedial action appears to be performing well. The landfill cap appears sound with no signs of physical deterioration.

Overall, levels of the indicator chemicals in the aquifer below the site have significantly declined compared to pre-remediation levels. The full-scan laboratory sample analysis conducted by the ESD lab shows no significant levels of contaminants in well AC-106. Nor do the samples obtained by Alpha show any indication of significant VOA contamination in any of the wells. While Alpha did not conduct full-scan analysis of samples during the July sampling event, they did resample AC-106 in September 1993 as part of quarterly groundwater monitoring activities. The TAL analysis performed for this sample was used to confirm EPA's results from the July event.

3.4 NEXT REVIEW

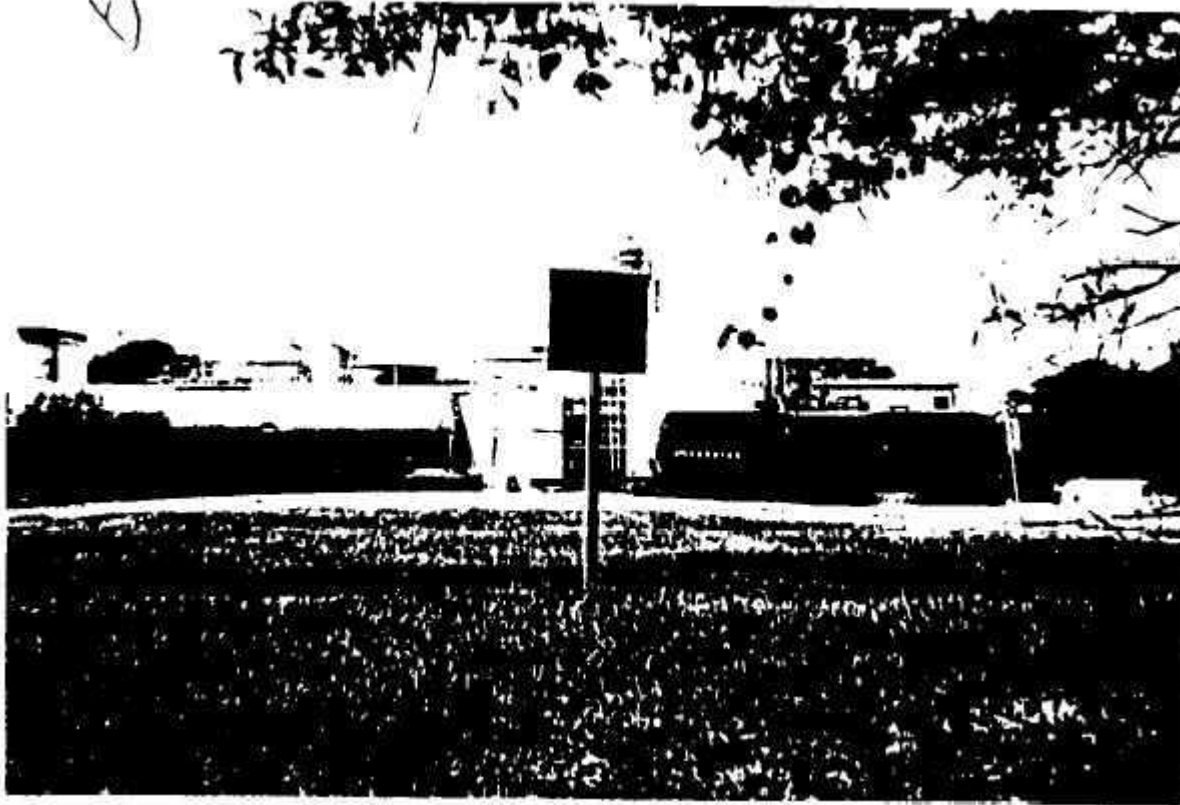
This review has revealed that the remedy is operating and functioning as designed and remains protective of human health and the environment. Based on the current conditions and the PRP's conscientious effort toward maintaining the cap, it appears that a next review of the same nature and scope is not warranted.

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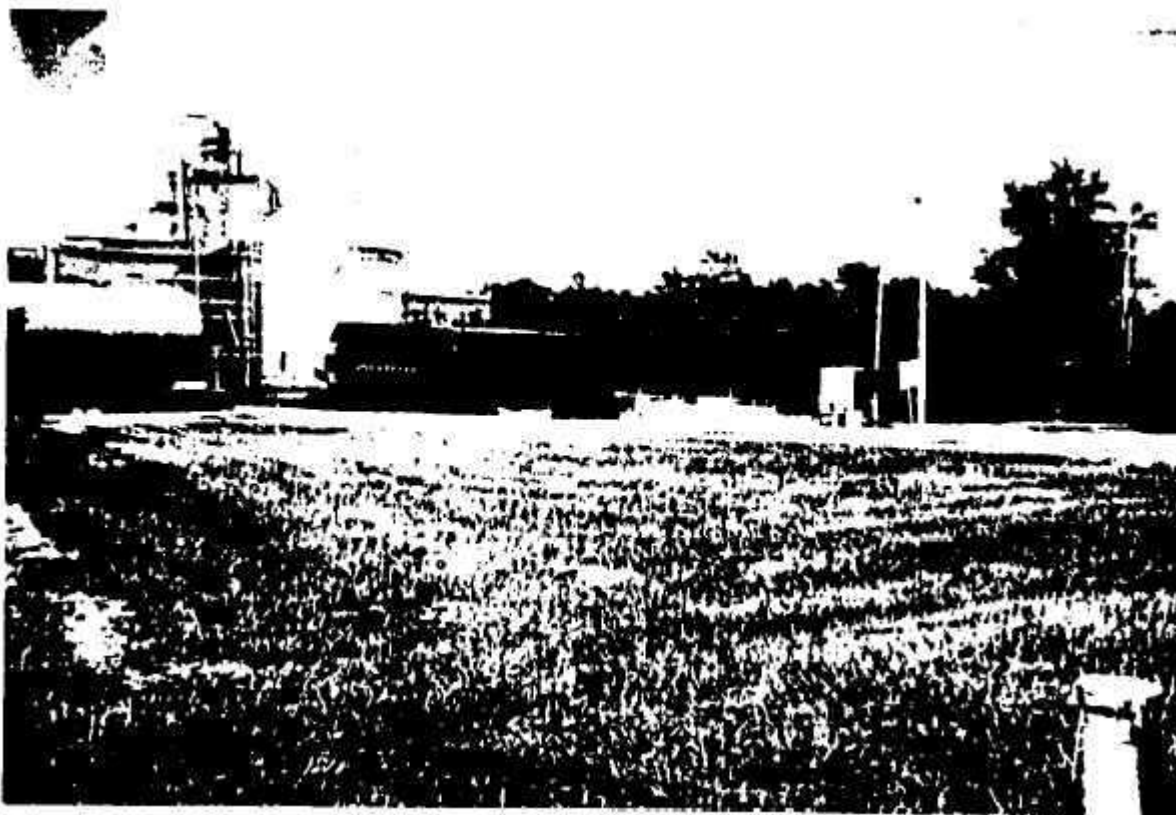
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APPENDIX A

PHOTOGRAPHIC DOCUMENTATION



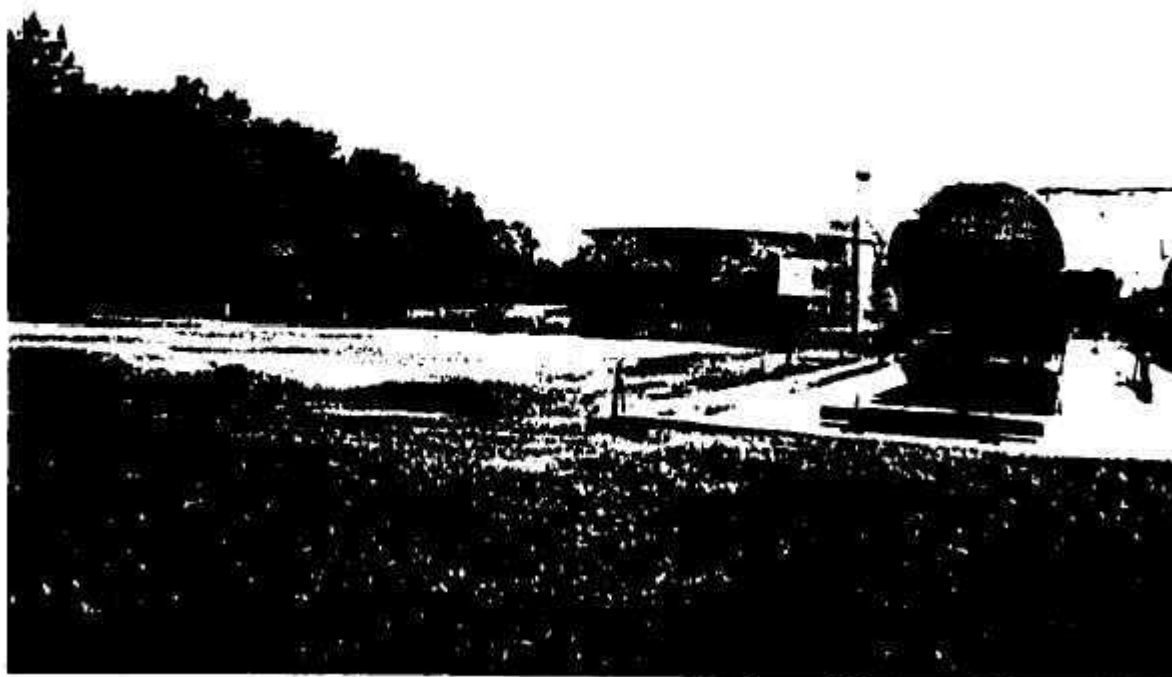
Photograph No. 1
Location: Alpha Chemical, Lakeland, Florida
Description: Northern view of landfill cap.



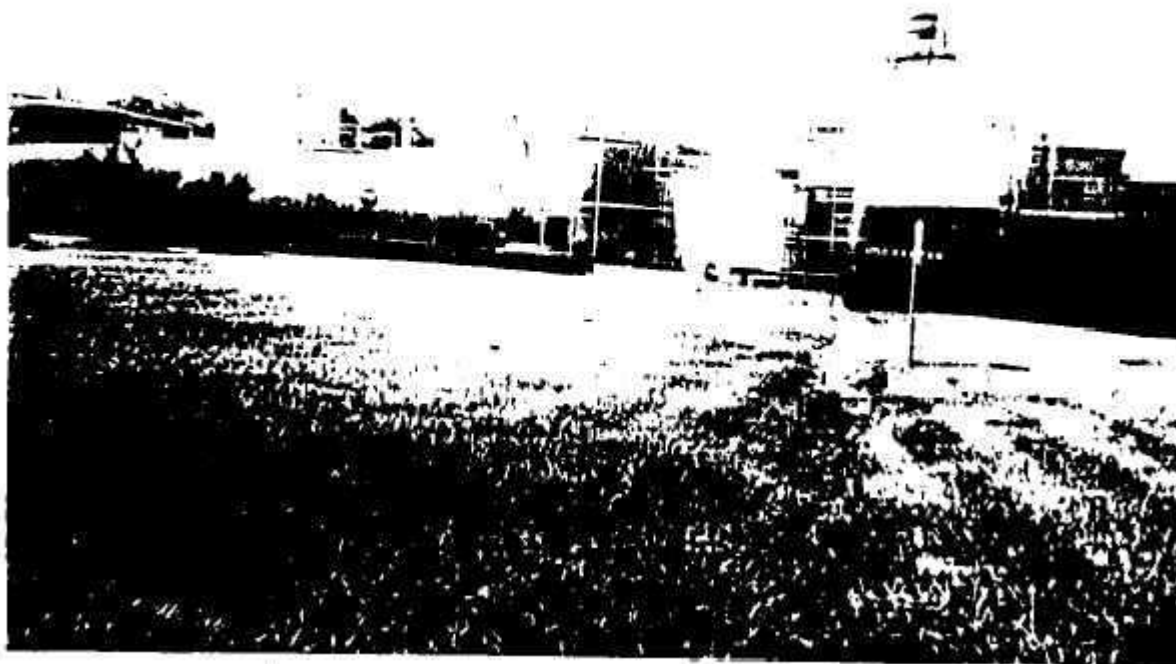
Photograph No. 2
Location: Alpha Chemical, Lakeland, Florida
Description: Northeastern view of landfill cap.



Photograph No. 3
Location: Alpha Chemical, Lakeland, Florida
Description: Northeastern view of landfill cap.



Photograph No. 4
Location: Alpha Chemical, Lakeland, Florida
Description: Southwestern view of landfill cap.



Photograph No. 5

Location: Alpha Chemical, Lakeland, Florida

Description: Northerly view of the landfill cap's eastern drainage swale.



Photograph No. 6

Location: Alpha Chemical, Lakeland, Florida

Description: Northerly view of the landfill cap's western drainage swale.



Photograph No. 7

Location: Alpha Chemical, Lakeland, Florida

Description: Westerly view of the landfill cap's northern drainage swale.



Photograph No. 8

Location: Alpha Chemical, Lakeland, Florida

Description: Westerly view of the landfill cap's southern drainage swale.



Photograph No. 9
 Location: Alpha Chemical, Lakeland, Florida
 Description: Westerly view of the center landfill cap.



Photograph No. 10
 Location: Alpha Chemical, Lakeland, Florida
 Description: Easterly view Alpha Resins personnel purging well AC 102 (front) and AC 106 (back).



Photograph No. 12

Location: Alpha Chemical, Lakeland, Florida

Description: Southeastern view of the Noncontact
 Water Discharge located adjacent
 and to the east of the landfill area.

Photograph No. 11

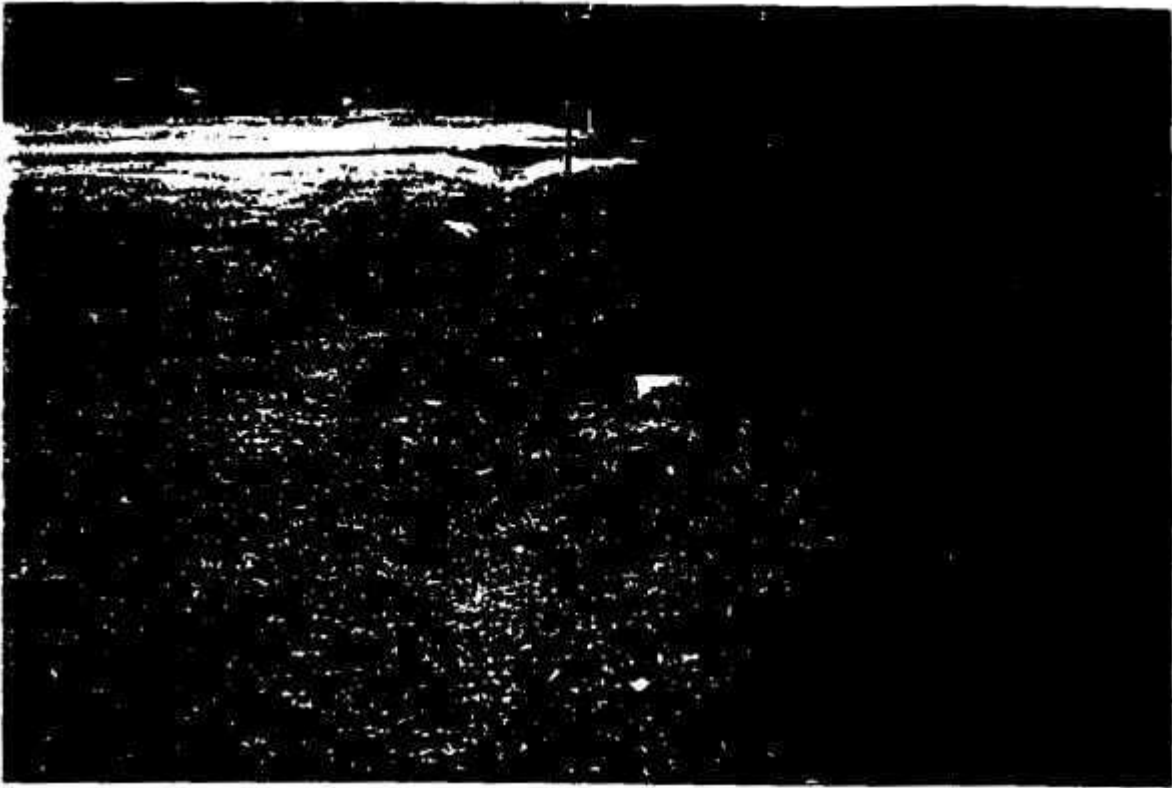
Location: Alpha Chemical, Lakeland, Florida



Photograph No. 12

Location: Alpha Chemical, Lakeland, Florida

Description: Southeastern view of the Noncontact
 Water Discharge located adjacent
 and to the east of the landfill area.



Photograph No. 13

Location: Alpha Chemical, Lakeland, Florida

Description: View of drainage swale around cap and inlet section of the discharge pipe.



Photograph No. 14

Location: Alpha Chemical, Lakeland, Florida

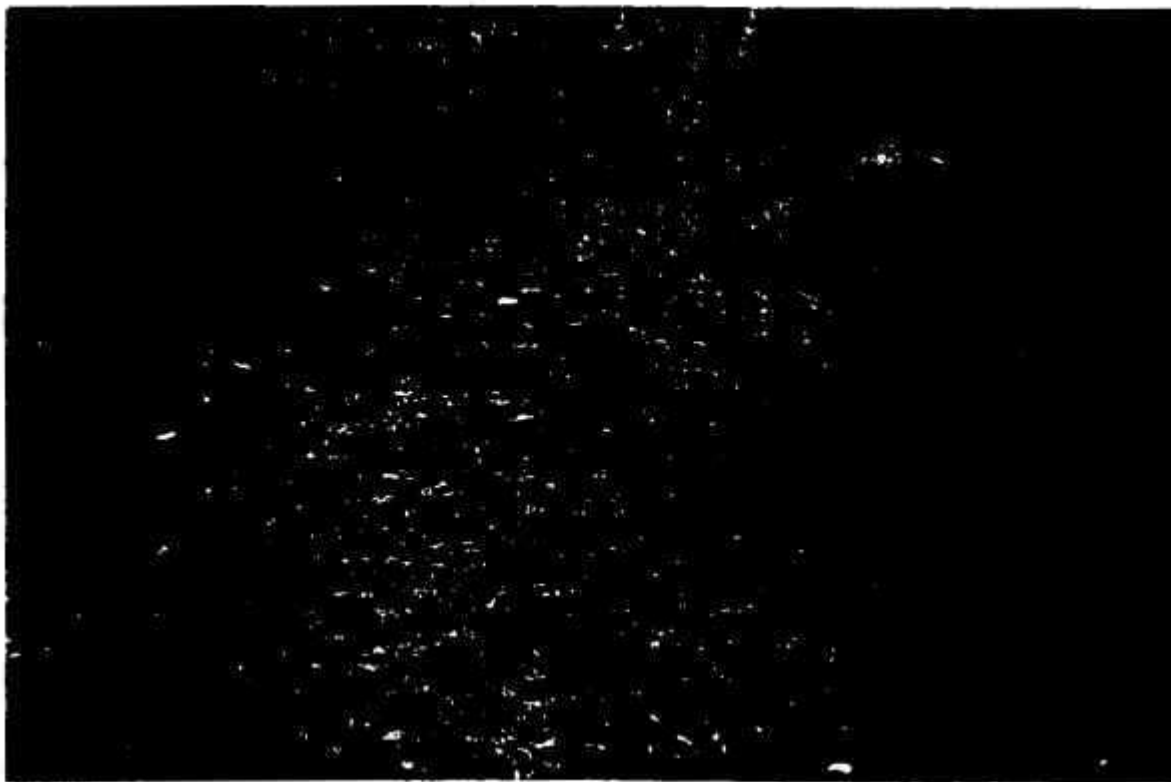
Description: Outlet Section of the discharge pipe exposed due to soil erosion.



Photograph No. 15

Location: Alpha Chemical, Lakeland, Florida

Description: Outlet section of discharge pipe extended during corrective actions.



Photograph No. 16

Location: Alpha Chemical, Lakeland, Florida

Description: Backfilled and sodded area over the discharge pipe.

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APPENDIX B

REGION IV ESD FIELD OVERVIEW CHECKLIST

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REGION IV ESD FIELD OVERVIEW CHECKLIST

Facility/Site Name Alpha Resins Corporation

Address 4620 N. Galloway Road

Project No. WESTON Work Order Number: 4400-044-093-0003

EPA ID No. Work Assignment No. 44-4X46

Facility Contact Tom Show

Phone No. (901) 858-4431

Overview Personnel Joyce Boakes (Roy F. Weston, Inc.)

Date 07/13-14/93

Federal Project Leader Barbara Dick

Affiliation U.S. EPA

Phone No. (404) 347-2643

Address 4620 North Galloway Road, three miles north of Lakeland, Florida

Sampling Personnel Tom Show, Marty McLeod, Greg Simpkins, and Rex Mercer

Other Personnel and Affiliation Barbara Dick on site 7-13-93

Type of Study 5-year review

Study plan issued? ☒ Yes ☐ No

Date 1989

Study plan reviewed by ESD? ☐ Yes ☒ No ☐ (Unknown) **Acceptable?** ☐ Yes ☐ No ☐ (Unknown)

Was study plan followed? ☐ Yes ☐ No

Comments Yes

Was a safety plan prepared for the study? ☒ Yes ☐ No

Was the safety plan adequate? ☒ Yes ☐ No

Comments

Was the safety plan followed? ☒ Yes ☐ No

Comments

Additional Comments or Information

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REGION IV ESD FIELD OVERVIEW CHECKLIST

Checklist section completed for this overview: 1___ 2_ X 3___ 4___ 5___ 6___

Key: 1 General Procedures; 2 Groundwater Sampling; 3 Soil, Sediment Sampling; 4 Surface Water Sampling; 5 Waste Sampling; 6 Monitoring Well Installation

SECTION 1 - GENERAL PROCEDURES - SAFETY, RECORDS, QA/QC, CUSTODY, ETC.

- 1) Type samples collected? VOAs
- 2) Were sampling locations properly selected? X Yes ___ No
Comments
- 3) Were sampling locations adequately documented in a bound field log book using indelible ink? X Yes ___ No
Comments
- 4) Were photos taken and photolog created? X Yes ___ No
- 5) What field instruments were used during this study? Water-level meter, PVC disposable and/or Teflon bailers, Grundfos Rediflo 2 converter, Glazco Ser. No. 33201 and pump with 150' motor lead, braided polypropylene tubing, nylon hose, Markson Digital pH meter Model 88, Myron L Company DS meter, thermometer
- 6) Were field instruments properly calibrated and calibrations recorded in a bound field log book? X Yes ___ No
Comments
- 7) Was sampling equipment properly wrapped and protected from possible contamination prior to sample collection? X Yes ___ No
Comments
- 8) Was sampling equipment constructed of Teflon, glass, or stainless steel? Teflon
- 9) Were samples collected in proper order? (Least suspected contamination to most contaminated?) X Yes ___ No
- 10) Were clean disposable latex or vinyl gloves worn during sampling? X Yes ___ No
Comments

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REGION IV ESD FIELD OVERVIEW CHECKLIST

- 11) Were gloves changed for each sample station? ☒ Yes ☐ No
Comments
- 12) Was any equipment field cleaned? ☒ Yes ☐ No
- 13) Type of equipment cleaned? teflon bailers, water-level meter, pump, pH conductivity, and temperature meter
- 14) Were proper field cleaning procedures used? ☒ Yes ☐ No
Comments
- 15) Were equipment rinse blanks collected after field cleaning? ☐ Yes ☒ No
Comments
- 16) Were proper sample containers used for samples? ☒ Yes ☐ No
Comments
- 17) Were split samples offered to the facility owner or his representative? ☐ Yes ☒ No
Comments Facility personnel took their own samples and offered split samples to EPA.
- 18) Was a receipt for samples form given to facility representative? ☐ Yes ☐ No
N/A
- 19) Were any duplicate samples collected? ☐ Yes ☒ No
Comments
- 20) Were samples properly field preserved? ☒ Yes ☐ No
Comments
- 21) Were preservative blanks utilized? ☐ Yes ☒ No
Comments
- 22) Were field and/or trip blanks utilized? ☒ Yes ☐ No
Comments
- 23) Were samples adequately identified with labels or tags? ☒ Yes ☐ No
Comments

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REGION IV ESD FIELD OVERVIEW CHECKLIST

- 24) Were samples sealed with custody seals after collection? X Yes ____ No
Comments
- 25) What security measures were taken to insure custody of the samples after collection? Sample vials sealed, coolers sealed, ready for Federal Express shipment
- 26) Were Chain-of-Custody and receipt for samples forms properly completed? X Yes ____ No
Comments
- 27) Were any samples shipped to a laboratory? X Yes ____ No
Comments
- 28) If yes to No. 27, were samples properly packed? X Yes ____ No
Comments Compuchem lab designed cooler; each vial placed in a styrofoam packing; ice for cooling
- 29) If shipped to a CLP lab, were Traffic Report Forms properly completed? ____ Yes ____ No
Comments N/A
- 30) What safety monitoring equipment, protection, and procedures were used prior to and during sampling?
protection: gloves, boots
- 31) Was safety monitoring equipment properly calibrated and calibrations recorded in a bound field log book? X Yes ____ No
Comments

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REGION IV ESD FIELD OVERVIEW CHECKLIST

SECTION 2 - SAMPLING GROUNDWATER WELLS

- 1) Type of wells sampled? (Monitoring, potable, industrial, etc.) Monitoring
- 2) Were wells locked and protected? ☒ Yes ☐ No
Comments
- 3) Were identification marks and measurement point affixed to the wells? ☒ Yes ☐ No
Comments
- 4) What were the sizes and construction materials of the well casing? AC 102 = 2" diameter with PVC casing; AC 105 = 4" diameter with galvanized steel casing; AC 106, AC 107 = 3" diameter with stainless steel casing; SP-2, 6, 7, 8, 9, = 2" diameter with stainless steel casing
- 5) Were the boreholes sealed with a concrete pad to prevent surface infiltration? ☐ Yes ☒ No
Comments concrete pads = AC 105, SP-6; no concrete pads = SP-2, AC 102, AC 106
- 6) Was there a dedicated pump in the well? ☐ Yes ☒ No
Comments
- 7) Was clean plastic sheeting placed around the wells to prevent contamination of sampling equipment and containers? ☒ Yes ☐ No
- 8) Were total depths and depths to water determined before purging? ☒ Yes ☐ No
- 9) What device was used to determine depths? Water-level meter
- 10) Were measurements made to the nearest 0.01ft? ☐ Yes ☒ No
Tape goes to a 10th of an inch only
- 11) Was the measuring device properly cleaned between wells? ☒ Yes ☐ No
Comments
- 12) Was the standing water volume in each well determined? ☒ Yes ☐ No
- 13) How was the volume determined?
- 14) Was a sufficient volume purged prior to sampling? ☒ Yes ☐ No
Comments

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REGION IV ESD FIELD OVERVIEW CHECKLIST

- 15) How many volumes? 3 well volumes
- 16) How was the purged volume measured? 5 gallon bucket. A 55-gallon drum was used to measure purge volumes at AC 105 (deep well)
- 17) What was the method of purging? Bailing wells in surficial aquifer, submersible pump for Floridan aquifer (AC 106)
- 18) Were pH, conductivity, and temperature measurements taken and recorded at least once during each well volume purged? X Yes No
Comments
- 19) Were pH, conductivity, and temperature readings stable prior to sampling? X Yes No
Comments
- 20) How many wells were sampled? 9 Upgradient? Downgradient? 9
Comments
- 21) How were the samples collected? Bailer X Pump Other
- 22) If pump was used, what type? N/A
- 23) If a pump was used, was it properly cleaned before and/or between wells? Yes No
Comments N/A - pump only used to purge the (deep) well located in the Floridan aquifer
- 24) What were the cleaning procedures? Alconox mixed with DI water and then DI water rinse
Comments
- 25) Did bailers have teflon coated wire leaders to prevent rope from coming into contact with water? X Yes No
- 26) Were bailers open or closed top?
- 27) Was clean bailer and new rope used at each well? X Yes No
Comments
- 28) Were samples properly transferred from the sampling device to the sample containers? (i.e., purgeable sample first - not aerated, etc.) X Yes No
Comments

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REGION IV ESD FIELD OVERVIEW CHECKLIST

- 29) **Was pH of preserved samples checked to insure proper preservation?** ☐ Yes ☒ No
Comments Only VOAs sampled
- 30) **Were samples iced immediately after collection?** ☒ Yes ☐ No
- 31) **For what analyses were the samples collected?** VOAs
- 32) **If samples were split, what were the sample/station numbers for these?** Only one sample - station number AC 106

Other comments or observations

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REGION IV ESD FIELD OVERVIEW CHECKLIST

SECTION 3 - SAMPLING - SOIL, SEDIMENT, SLUDGE, ETC. (NON-CONTAINERIZED)

SECTION 3 - N/A

- 1) Type of wells samples collected?
- 2) General description of samples?
- 3) How many samples were collected?
- 4) Were background and/or control samples collected? ____ Yes ____ No
Comments
- 5) Were representative samples collected? ____ Yes ____ No
Comments
- 6) Were grab or composite samples collected?
- 7) Were composite samples areal or vertical?
- 8) How many aliquots were taken for the composite sample?
- 9) What procedures and equipment were used to collect samples?
- 10) Were samples thoroughly mixed prior to putting them into the sample containers? ____ Yes ____ No
Comments
- 11) Were samples properly placed into sample containers? ____ Yes ____ No
Comments
- 12) Were samples iced immediately after collection? ____ Yes ____ No
- 13) For what analyses were the samples collected?
- 14) If samples were split, what were the sample/station numbers for these?
- 15) Was a drilling rig, back hoe, etc., used to collect soil samples?

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REGION IV ESD FIELD OVERVIEW CHECKLIST

- 16) **Were the drilling rig(s), backhoes(s), etc., properly cleaned according to the ESD SOP, Appendix B, prior to arriving on-site?**

Comments

- 17) **What was the condition of the drilling and sampling equipment when it arrived on-site?**

- 18) **Was a decontamination area located where the cleaning activities would not cross-contaminate clean and/or drying equipment?** ☐ Yes ☐ No

Comments

- 19) **Was clean equipment properly wrapped and stored in a clean area?** ☐ Yes ☐ No

Comments

- 20) **Was the drilling rig(s) properly cleaned between well borings?** ☐ Yes ☐ No

Comments

- 21) **Were the cleaning and decontamination procedures conducted in accordance with the ESD SOP?** ☐ Yes ☐ No

Comments

- 22) **Other comments or observations**

Comments

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APPENDIX C

BLANK AND SPIKE TRACKING RECORD

SITE Alpha Res. (Chemical) PROJECT # 04400-044-092-0003
 CITY Lakeland RPM/OSC Barbara Dick
 STATE FL SAMPLING DATES 7.14.93

WATER BLANK SAMPLE ID# AC106-A

	NOT REC'D	PROVIDED TO PRP	DISCARDED
WATER BLANK-VOA		✓✓	
WATER BLANK-EXT		✓	
WATER BLANK-P/P	✓		
WATER BLANK-MET		✓	
WATER BLANK-CN		✓	

WATER SPIKE SAMPLE ID# AC106-B

	NOT REC'D	PROVIDED TO PRP	DISCARDED
WATER SPIKE-VOA		✓✓	
WATER SPIKE-EXT		✓	
WATER SPIKE-P/P	✓		
WATER SPIKE-MET		✓	
WATER SPIKE-CN		✓	

WATER SPIKE SAMPLE ID# AC106-C

	NOT REC'D	PROVIDED TO PRP	DISCARDED
WATER ICS-MET		✓	

SOIL/SED BLANK SAMPLE ID# NA

	NOT REC'D	PROVIDED TO PRP	DISCARDED
SED BLANK-VOA			✓
SED BLANK-EXT			✓
SED BLANK-P/P			
SED BLANK-MET			✓
SED BLANK-CN			

SOIL/SED SPIKE SAMPLE ID# NA

	NOT REC'D	PROVIDED TO PRP	DISCARDED
SED SPIKE-EXT			✓
SED SPIKE-P/P			

organic

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APPENDIX D

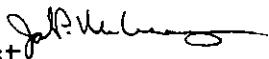
ANALYTIC RESULTS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SERVICES DIVISION
REGION IV
960 COLLEGE STATION RD.
ATHENS, GA 30613


MEMORANDUM

DATE: September 30, 1993

SUBJECT: Evaluation of QC and Split Sample Data from Alpha Chemical, Kathleen, FL

FROM: John P. McConney 
Environmental Scientist
Laboratory Evaluation & Quality Assurance Section

TO: Barbara Dick, RPM
South Superfund Remedial Branch
Waste Management Division

THRU: Charles H. Hooper, Chief 
Laboratory Evaluation & Quality Assurance Section

We have received and evaluated data for 1 split water sample which was collected at the subject site on July 14, 1993. The sample was split between the PRP's laboratory, Compuchem Laboratories, and the Region IV ESD Laboratory.

The split sample was analyzed by the PRP's laboratory for volatile organic compounds only. The ESD QC blank and spike samples were analyzed by the PRP's laboratory for volatile and semivolatile organic compounds, and total metals. The PRP's laboratory provided a partial raw data package. Examination of the partial raw data package indicated acceptable technical performance, with routine data qualifications.

For the volatile analyses, positive results were reported by both laboratories. The agreement between the two laboratories for these results was acceptable.

The PRP's laboratory was provided ESD QC blank and spike samples for analysis. Significant contamination was not reported in the QC blank samples. Recoveries of the compounds in the QC spike samples were acceptable.

Based on the limited QC and split sample results, the PRP's data appear to be acceptable.

Copies of the ESD split sample data are attached. If you have any concerns or questions please contact me at (706) 546-2445.

Attachments

CC: Bokey/Hall w/o attachments

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV
COLLEGE STATION RD.
ATHENS, GA. 30613

*****MEMORANDUM*****

DATE: 08/07/93

SUBJECT: Results of Pesticide/PCB Analysis;
93-0577 ALPHA CHEMICAL CORP
KATHLEEN FL

FROM: Lavon Revells, Chemist *HR*

TO: CHARLES HOOPER

THRU: Wade Knight *WK*
Chief Organic Chemistry Section

Attached are the results of analysis of samples collected as part of the subject project.

If you have any questions please contact me.

ATTACHMENT

AUG 10 1993

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

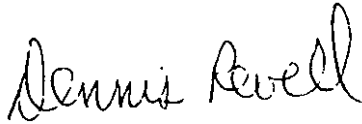
REGION IV
COLLEGE STATION RD.
ATHENS, GA. 30613

*****MEMORANDUM*****


DATE: 07/28/93

SUBJECT: Results of Extractable Organic Analysis;
93-0577 ALPHA CHEMICAL CORP
KATHLEEN FL

FROM: Dennis Revell, Chemist



TO: CHARLES HOOPER

THRU: Wade Knight 
Chief, Organic Chemistry Section

Attached are the results of analysis of samples collected as part of the subject project.

If you have any questions please contact me.

ATTACHMENT

JUL 29 1993

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV
COLLEGE STATION RD.
ATHENS, GA. 30613

*****MEMORANDUM*****

DATE: 07/27/93

SUBJECT: Results of Cyanide Analysis;
93-0577 ALPHA CHEMICAL CORP
KATHLEEN FL

FROM: Robert L. Quinn *RLQ*

TO: CHARLES HOOPER

Attached are the results of analysis of samples collected as part of the subject project.

If you have any questions please contact me.

ATTACHMENT

JUL 28 1993

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV
COLLEGE STATION RD.
ATHENS, GA. 30613

*****MEMORANDUM*****

DATE: 07/28/93

SUBJECT: Results of Metals Analysis;
93-0577 ALPHA CHEMICAL CORP
KATHLEEN FL

FROM: *Michael Wasko*
Mike Wasko, Chemist

TO: CHARLES HOOPER

THRU: William H. McDaniel *W. H. McDaniel*
Chief, Inorganic Chemistry Section

Attached are the results of analysis of samples collected as part of the subject project.

If you have any questions please contact me.

ATTACHMENT

JUL 28 1993

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

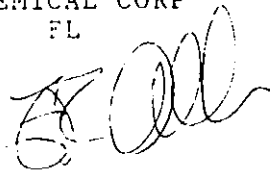
REGION IV
COLLEGE STATION RD.
ATHENS, GA. 30613

***** MORANDUM *****

DATE: 07/21/93

SUBJECT: Results of Purgeable Organic Analysis;
91-0577 ALPHA CHEMICAL CORP
KATHLEEN FL

FROM: Frank Allen, Chemist



TO: CHARLES HOOPER

CC: Wade Wright *W*W*
Chief, Organic Chemistry Section

Attached are the results of analysis of samples collected as part of the subject project.

If you have any questions please contact me.

ATTACHMENT

JUL 23 1993

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FOOTNOTES***
 *A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
 *K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
 *U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

MISCELLANEOUS PURCHASABLE DATA REPORT

PROJECT NO. 93-0677 SAMPLE NO. 77553 NAME TYPE: CRACK COCAINE
STATION ID: AC-105
COLLECTED BY: J. BOATES
COLLECTION START: 07/14/93 1130 STOP: 00/00/00

ANALYTICAL RESULTS

ISOPROPYL BENZENE
N-PROPYLBENZENE
SEC-BUTYLBENZENE
TETRAHYDROMETHANOINDENE

FOOTNOTES

*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

57,203

PRNG ELEM: 101 COLLECTED BY: J. GRAPE
 CITY: KATHLEEN ST. HI
 TEL: 1914-11-11 10/10/62

UG/L	ANALYTICAL RESULTS
5.00	1,1,2,2-TETRACHLOROETHANE
5.00	METHYL ETHYL KETONE
5.00	TOLUENE
5.00	TRANS-1,3-DICHLOROPROPENE
5.00	1,1,2-TRICHLOROETHANE
5.00	TETRACHLOROETHENE (TETRACHLOROETHYLENE)
5.00	1,3-DICHLOROPROPANE
12.00	METHYL BUTYL KETONE
5.00	DIBROMOCHLOROMETHANE
5.00	CHLOROBENZENE
5.00	1,1,1,2-TETRACHLOROETHANE
5.00	ETHYL BENZENE
5.00	(M- AND/OR P-)XYLENE
5.00	O-XYLENE
5.00	STYRENE
5.00	BROMOFORM
5.00	BROMOBENZENE
5.00	1,1,2,2-TETRACHLOROETHANE
5.00	1,2,3-TRICHLOROPROPANE
5.00	O-CHLOROTOLUENE
5.00	P-CHLOROTOLUENE
5.00	1,3-DICHLOROBENZENE
5.00	1,4-DICHLOROBENZENE
5.00	1,2-DICHLOROBENZENE

*** REMARKS ***

FOOTNOTES***
 *A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
 *K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
 *U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/27/93

LS DATA REPORT

PROJECT NO. 93-0577 SAMPLE NO. 77553 SAMPLE TYPE: GROUNDWA PROG ELEM: SSF COLLECTED BY: J BOAKES
SOURCE: ALPHA CHEMICAL CORP CITY: KATHLEEN ST: FL
STATION ID: AC-106 COLLECTION START: 07/14/93 1130 STOP: 00/00/00

UG/L	ANALYTICAL RESULTS	MG/L	ANALYTICAL RESULTS
10U	SILVER	20	CALCIUM
30U	ARSENIC	2.7	MAGNESIUM
NA	BORON	1.5	IRON
10U	BARIUM	44	SODIUM
5.0U	BERYLLIUM	2.0U	POTASSIUM
5.0U	CADMIUM		
23	COBALT		
10U	CHROMIUM		
10U	COPPER		
10U	MOLYBDENUM		
20U	NICKEL		
5.0U	LEAD		
30U	ANTIMONY		
40U	SELENIUM		
25U	TIN		
32	STRONTIUM		
50U	TELLURIUM		
10U	TITANIUM		
100U	THALLIUM		
10U	VANADIUM		
10U	YTTRIUM		
12	ZINC		
NA	ZIRCONIUM		
0.2U	MERCURY		
330	ALUMINUM		
20	MANGANESE		

EMARKS***

REMARKS

DOINOTES***

A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
 <-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
 !-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/26/93

CIFIED ANALYSIS DATA REPORT

PROJECT NO. 93-0577 SAMPLE NO. 77553 SAMPLE TYPE: GROUNDWA PROG ELEM: SSP COLLECTED BY: J SOAKES **
SOURCE: ALPHA CHEMICAL CORP CITY: KATHLEEN ST: FL **
STATION ID: AC-106 COLLECTION START: 07/14/93 1130 STOP: 00/00/00 **

RESULTS UNITS PARAMETER
4U UG/L CYANIDE

FOOTNOTES***

*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*R-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

02\$DISK:[EPADEC]PRODTCLP.LST;1

02\$DISK:[EPADEC]PRODUOAMISC.LST;1

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/27/93

ACTABLE ORGANICS DATA REPORT

PROJECT NO. 93-0577 SAMPLE NO. 77553 SAMPLE TYPE: GROUNDWA PROG ELEM: SSF COLLECTED BY: J BOAKES
SOURCE: ALPHA CHEMICAL CORP CITY: KATHLEEN ST: FL
STATION ID: AC-106 COLLECTION START: 07/14/93 1130 STOP: 00/00/00

UG/L ANALYTICAL RESULTS

20U (3-AND/OR 4-)METHYLPHENOL
20U 1,2,4-TRICHLOROBENZENE
20U 2,2'-CHLOROISOPROPYLETHER
20U 2,3,4,6-TETRACHLOROPHENOL
20U 2,4,5-TRICHLOROPHENOL
20U 2,4,6-TRICHLOROPHENOL
20U 2,4-DICHLOROPHENOL
20U 2,4-DIMETHYLPHENOL
20U 2,4-DINITROPHENOL
20U 2,4-DINITROTOLUENE
20U 2,6-DINITROTOLUENE
20U 2-CHLORONAPHTHALENE
20U 2-CHLOROPHENOL
20U 2-METHYL-4,6-DINITROPHENOL
20U 2-METHYLNAPHTHALENE
20U 2-METHYLPHENOL
20U 2-NITROANILINE
20U 2-NITROPHENOL
20U 3,3'-DICHLOROBENZIDINE
20U 3-NITROANILINE
20U 4-BROMOPHENYL PHENYL ETHER
20U 4-CHLORO-3-METHYLPHENOL
20U 4-CHLOROANILINE
20U 4-CHLOROPHENYL PHENYL ETHER
20U 4-NITROANILINE
20U 4-NITROPHENOL
20U ACENAPHTHENE
20U ACENAPHTHYLENE
20U ANTHRACENE
20U BENZO(A)ANTHRACENE
20U BENZO(B AND/OR K)FLUORANTHENE

UG/L ANALYTICAL RESULTS

20U BENZO(GHI)PERYLENE
20U BENZO-A-PYRENE
20U BENZYL BUTYL PHTHALATE
20U BIS(2-CHLOROETHOXY) METHANE
20U BIS(2-CHLOROETHYL) ETHER
20U BIS(2-ETHYLHEXYL) PHTHALATE
20U CARBAZOLE
20U CHRYSENE
20U DI-N-BUTYLPHTHALATE
20U DI-N-OCTYLPHTHALATE
20U DIBENZO(A,H)ANTHRACENE
20U DIBENZOFURAN
20U DIETHYL PHTHALATE
20U DIMETHYL PHTHALATE
20U FLUORANTHENE
20U FLUORENE
20U HEXACHLOROBENZENE (HCB)
20U HEXACHLOROBUTADIENE
20U HEXACHLOROCYCLOPENTADIENE (HCCP)
20U HEXACHLOROETHANE
20U INDENO (1,2,3-CD) PYRENE
20U ISOPHORONE
20U N-NITROSODI-N-PROPYLAMINE
20U N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
20U NAPHTHALENE
20U NITROBENZENE
40U PENTACHLOROPHENOL
20U PHENANTHRENE
20U PHENOL
20U PYRENE

MARKS***

REMARKS

OTNOTES***

-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/27/93

ELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 93-0577 SAMPLE NO. 77553 SAMPLE TYPE: GROUNDWA PROG ELEM: SSF COLLECTED BY: J BOAKES **
SOURCE: ALPHA CHEMICAL CORP CITY: KATHLEEN ST: FL **
STATION ID: AC-106 COLLECTION START: 07/14/93 1130 STOP: 00/00/00 **

ANALYTICAL RESULTS UG/L

70JN	TETRAHYDROMETHANOINDENE
400JN	ETHENYLBI-CYCLOHEPTENE
200JN	ETHYLIDENE-BICYCLOHEPTENE
200JN	(METHYLPROPOXY)PROPANOL
20JN	(TETRAMETHYLBUTYL)PHENOL
2000J	14 UNIDENTIFIED COMPOUNDS

OOTNOTES***

A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
J-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

08/06/93

PESTICIDES/PCB'S DATA REPORT

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** PROJECT NO. 93-0577  SAMPLE NO. 77553  SAMPLE TYPE: GROUNDWA  PROG ELEM: SSF  COLLECTED BY: J BOAKES  **
** SOURCE: ALPHA CHEMICAL CORP  CITY: KATHLEEN  ST: FL  **
** STATION ID: AC-106  COLLECTION START: 07/14/93  1130  STOP: 00/00/00  **

```

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
0.50U	ALDRIN	2.0U	PCB-1232 (AROCOR 1232)
0.50U	HEPTACHLOR	2.0U	PCB-1248 (AROCOR 1248)
0.50U	HEPTACHLOR EPOXIDE	2.0U	PCB-1260 (AROCOR 1260)
0.50U	ALPHA-BHC	2.0U	PCB-1016 (AROCOR 1016)
0.50U	BETA-BHC	2.0U	TOXAPHENE
0.50U	GAMMA-BHC (LINDANE)	20U	CHLORDENE /2
0.50U	DELTA-BHC	-	ALPHA-CHLORDENE /2
0.50U	ENDOSULFAN I (ALPHA)	-	BETA CHLORDENE /2
0.50U	DIELDRIN	-	GAMMA-CHLORDENE /2
0.50U	4,4'-DDT (P,P'-DDT)	-	GAMMA-CHLORDANE /2
0.50U	4,4'-DDE (P,P'-DDE)	-	TRANS-NONACHLOR /2
0.50U	4,4'-DDD (P,P'-DDD)	-	ALPHA-CHLORDANE /2
0.50U	ENDRIN	-	CIS-NONACHLOR /2
0.50U	ENDOSULFAN II (BETA)	-	OXYCHLORDANE (OCTACHLOREPOXIDE) /2
0.50U	ENDOSULFAN SULFATE	1.0U	METHOXYCHLOR
1.0U	CHLORDANE (TECH. MIXTURE) /1	0.50U	ENDRIN KETONE
2.0U	PCB-1242 (AROCOR 1242)		
2.0U	PCB-1254 (AROCOR 1254)		
2.0U	PCB-1221 (AROCOR 1221)		

REMARKS

REMARKS

FOOTNOTES

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 *U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT. C-CONFIRMED BY GC/MS
 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS. 2. CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE.



INORGANIC CASE SUMMARY NARRATIVE

CASE # 30590 SDG # 278561

CONTRACT # 3/90

The indicated Sample Delivery Group (SDG) consisting of three water samples was received into the laboratory management system (LMS) on September 30, 1993 intact and in good condition with Chain of Custody (COC) Records in order. Sample ID's reported in this data package are noted by the receiving department on the COC if they differ from those listed by the samplers on the COC. The samples were analyzed, in accordance with EPA CLP Statement of Work (SOW) 3/90 for the metallic analytes contained in the Inorganic Target Analyte List (TAL).

SAMPLE IDs:

The following customer IDs are associated with this SDG:

AC-106, EQUIPBLK, FIELDDBLK

INSTRUMENTAL QUALITY CONTROL:

All calibration verification solutions (ICV & CCV), blanks (ICB, CCB) and interference check samples (ICSA & ICSAB) associated with this data were confirmed to be within EPA CLP allowable limits.

SAMPLE PREPARATION QUALITY CONTROL:

The sample preparation procedure verifications (LCS & PB) were found to be within acceptable ranges and all field samples were prepared and analyzed within the contract specified holding times.

MATRIX RELATED QUALITY CONTROL:

Due to insufficient sample volume neither a matrix spike nor a duplicate sample could be performed for this SDG.

A five-fold serial dilution of sample CCN = 581271 [AC-106L] was performed in accordance with CLP requirements for ICP analysis. The adjusted sample concentrations

were inside CLP control limits for all requested analytes.

CLP control limits for serial dilution are defined as a deviation less than or equal to 10% in the dilution-adjusted concentrations from the original values for all analyte concentrations with values greater than fifty (50) times their respective Instrument Detection Limit (IDL) in the original sample.


A "W" flag appears on a sample specific basis in the Form 1 for the following:

*arsenic in sample AC-106

*thallium in sample AC-106

This qualifier flag indicates that a slight matrix related interference is present for the analyte as determined by analytical spike recovery that is wide of the 85% to 115% CLP acceptability limits in samples which exhibit relatively low concentrations of the analyte.

Release of the data contained in this hard copy data package has been authorized by the laboratory Manager or his designee, as verified by the following signature.



Jeanne Alston
Final Technical Reviewer
November 1, 1993

Note: This report is paginated for reference and accountability.

U.S. EPA - CLP
COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: COMPUCHEM ENV. CORP.

Contract: 3/90

Lab Code: COMPU

Case No.: 30590

SAS No.: _____

SDG No.: 278561

SOW No.: 3/90

Client Sample No.

Lab Sample ID

AC-106

581271

EQUIPBLK

581272

FIELDDBLK

581273

LCS

581276

Prep Blank

582872

Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?

Yes/No YES

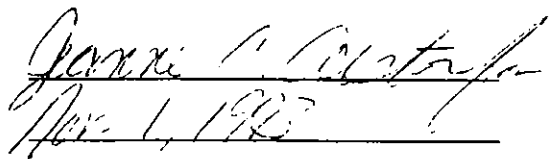
If yes-were raw data generated before
application of background corrections?

Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:



Name: Mark Ross

Date:

Nov 1, 1990

Title: Manager Inorganic Div.

INORGANIC SDG 278561

U.S EPA - CLP

1

CLIENT SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

AC-106

Lab Name: COMPUCHEN ENV. CORP.Contract: 3/90Lab Code: COMPU Case No: 30590

SAS No.: _____

SDG No.: 278561Matrix (soil/water): WATERLab Sample ID: 581271Level (low/med): LOWDate Received: 09/30/93% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	286			P
7440-36-0	Antimony	51.1	U		P
7440-38-2	Arsenic	5.2	U	W	F
7440-39-3	Barium	7.7	B		P
7440-41-7	Beryllium	.44	B		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	12200			P
7440-47-3	Chromium	9.2	U		P
7440-48-4	Cobalt	23.2	B		P
7440-50-8	Copper	11.1	U		P
7439-89-6	Iron	1700			P
7439-92-1	Lead	2.0	U		F
7439-95-4	Magnesium	2170	B		P
7439-96-5	Manganese	18.4			P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	14.2	U		P
7440-09-7	Potassium	1760	U		P
7782-49-2	Selenium	3.6	U		F
7440-22-4	Silver	5.5	U		P
7440-23-5	Sodium	38100			P
7440-28-0	Thallium	4.8	U	W	F
7440-62-2	Vanadium	10.3	B		P
7440-66-6	Zinc	6.6	B		P
	Cyanide				NR

Color Before: WHITEClarity Before: CLOUDY

Texture: ____

Color After: COLORLESSClarity After: CLEAR

Artifacts: ____

Comments:

FORM 1.05 - PAGE 1

U.S EPA - CLP

1

CLIENT SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

EQUIPBLK

Lab Name: COMPUCHEN ENV. CORP.Contract: 3/90Lab Code: COMPU Case No: 30590

SAS No.: _____

SDG No.: 278561Matrix (soil/water): WATERLab Sample ID: 581272Level (low/med): LOWDate Received: 09/30/93% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	59.5	B		P
7440-36-0	Antimony	51.1	U		P
7440-38-2	Arsenic	5.2	U		F
7440-39-3	Barium	2.3	U		P
7440-41-7	Beryllium	.40	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	161	B		P
7440-47-3	Chromium	9.2	U		P
7440-48-4	Cobalt	13.6	U		P
7440-50-8	Copper	11.1	U		P
7439-89-6	Iron	26.4	B		P
7439-92-1	Lead	2.0	U		F
7439-95-4	Magnesium	58.3	U		P
7439-96-5	Manganese	1.4	U		P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	14.2	U		P
7440-09-7	Potassium	1760	U		P
7782-49-2	Selenium	3.6	U		F
7440-22-4	Silver	5.5	U		P
7440-23-5	Sodium	375	B		P
7440-28-0	Thallium	4.8	U		F
7440-62-2	Vanadium	6.8	U		P
7440-66-6	Zinc	7.9	B		P
	Cyanide				NR

Color Before: COLORLESSClarity Before: CLEAR

Texture: _____

Color After: COLORLESSClarity After: CLEAR

Artifacts: _____

Comments:

FORM 1.05 - PAGE 2

INORGANIC SDG 278561

U.S EPA - CLP

1

CLIENT SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

FIELDBLK

Lab Name: COMPUCHEN ENV. CORP.Contract: 3/90Lab Code: COMPU Case No: 30590

SAS No.: _____

SDG No.: 278561Matrix (soil/water): WATERLab Sample ID: 581273Level (low/med): LOWDate Received: 09/30/93% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	38.8	U		P
7440-36-0	Antimony	51.1	U		P
7440-38-2	Arsenic	5.2	U		F
7440-39-3	Barium	2.3	U		P
7440-41-7	Beryllium	.40	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	71.9	B		P
7440-47-3	Chromium	9.2	U		P
7440-48-4	Cobalt	13.6	U		P
7440-50-8	Copper	11.1	U		P
7439-89-6	Iron	39.6	B		P
7439-92-1	Lead	2.0	U		F
7439-95-4	Magnesium	58.3	U		P
7439-96-5	Manganese	1.4	U		P
7439-97-6	Mercury	.20	U		CV
7440-20-0	Nickel	14.2	U		P
7440-09-7	Potassium	1760	U		P
7782-49-2	Selenium	3.6	U		F
7440-22-4	Silver	5.5	U		P
7440-23-5	Sodium	325	B		P
7440-28-0	Thallium	4.8	U		F
7440-62-2	Vanadium	6.8	U		P
7440-66-6	Zinc	5.7	U		P
	Cyanide				NR

Color Before: COLORLESSClarity Before: CLEAR

Texture: _____

Color After: COLORLESSClarity After: CLEAR

Artifacts: _____

Comments:

FORM 1.05 - PAGE 3

This document was prepared by Roy F. Weston, Inc., expressly for EPA. It shall not be released or disclosed, in whole or in part, without the express written permission of EPA.

Five-Year Review Report
Alpha Chemical Site
Section: Appendix E
Revision: 2
Date: February 1994

APPENDIX E

ALPHA CHEMICAL CORRESPONDENCE

The Alpha Corporation



of Tennessee

Post Office Box 670
Collierville, TN 38027-0670
901-853-2450

JAN 13 '94 PM 12:22

January 10, 1994

THOMAS A. SHOW
Director
Environmental Affairs
CHMM, REP

*Certified Mail
Return Receipt Requested*

Ms. Barbara S. Dick
Remedial Project Manager
U.S.E.P.A, Region IV
345 Courtland Street N.E.
Atlanta, GA 30365

RE: Alpha Chemical Superfund Site
Correction of Erosion Problems

Dear Barbara,

As we discussed in our telephone conversation, we have found no areas of erosion on the cap itself. Please refer to the enclosed photographs. You will notice that we did however solve a erosion problems on the effluent side of the drainage pipes. These pipes, as you know, drain water from the swale that surrounds the cap. The photographs are labeled before, during and after. The before photographs show the pipes and the area erosion on the effluent side. During pictures show what corrective actions were taken to prevent any erosion on the wetland side of the cap and the after pictures show the finished corrective measures. *-describe in detail*

As we discussed in previous phone conversations the pictures that you received from Joyce Boakes showed places on the cap where no grass was growing. Please refer to the pictures marked after. These pictures do show an area near the south sign on the south side of the cap where it does initially appear to have a place on the soil where nothing is growing. Upon further investigation we found that the area is not a area of non-growth. It is however a fire ant mound. There are three such fire ant mounds on the cap itself and several more scattered throughout our facility. For obvious reasons we have used no insecticides on the site to control fire ant problems. As you can see from the photographs, no other areas of erosion appear anywhere near the cap. The only erosion was on the effluent side of the pipe and that has been corrected. I believe that all of the erosion problems related to the superfund site have been corrected in a manner to prevent any further erosion on the wetland side of the cap.

If you have any questions, please call me at (901) 853-2450.

Sincerely,

TAS:lcc

cc: George Heuler, Florida DER
Elton Denson, Alpha Resins Corporation
Matt Watkins, Alpha Corporation

Enclosures

The Alpha Corporation



of Tennessee

Post Office Box 670
Collierville, TN 38027-0670
901-853-2450

January 28, 1994

THOMAS A. SHOW
Director
Environmental Affairs
CHMM, REP

Ms. Barbara S. Dick
Remedial Project Manager
U.S.E.F.A, Region IV
345 Courtland Street N.E.
Atlanta, GA 30363

RE: Cap Erosion Control
Superfund Site
Alpha Resins Corp.; Kathleen, Florida

Dear Barbara,

As we have discussed, we have made some minor improvements to insure that the Cap at our Superfund Site will remain intact and that no erosion can occur at the site. The improvements are as follows:

- 1) We have extended the effluent side of the 2 outfall pipes so they will drain into the swamp further away from the Cap. The only apparent erosion was occurring on the effluent / swamp side of these pipes. These pipes were extended 15 feet to the south into the swamp. The extensions were angled down so the effluent waters will not drop onto the soil. Effluent waters will now flow into the swamp with no dropping effect as the waters exit the pipes.
- 2) The exposed pipes (extension) were then covered with top soil and then sodded. The area that was covered and sodded is an area approximately 10' X10'. During these improvements the Cap was not disturbed.

The entire Cap and drainage swales have been inspected and no signs of erosion can be found. There are 3 areas within the boundaries that do show exposed sand. These areas were found to be Fire Ant mounds and not erosion or stressed vegetation. We plan to leave the Fire Ant mounds undisturbed and will not use any pesticides on the Cap or surrounding areas.

If you have any questions or comments, please call me at (901) 853-2450.

Sincerely,

TAS: lc

cc: Elton Denson, Alpha Resins Corporation
Matt Watkins, Alpha Corporation
Martin McLeod, Alpha Resins Corporation

**SOUTH
SUPERFUND**

FEB 8 2 25 PM '94

**REMEDIAL
BRANCH**

**Certified Mail
Return Receipt Requested**

OPTIONAL FORM 39 7 (01)	
FAX TRANSMITTAL	
From: Ralph McKeen	To: Barbara Dick
Over Agency	Priority
File # 368-1168	Fax #